

- 6 -

CLAIMS

- 1 1. A media area network comprising:
2 a storage system including at least one storage device for storing digitized information;
3 a host system for providing overall control of the media area network; and
4 a host bus adapter for providing a link between the host system and the storage system,
5 the host bus adapter having a lower-level port driver that includes:
6 means for monitoring communications between the storage system and the host
7 bus adapter through an active port, and
8 means for switching to an alternative port in real time, thereby achieving fail-over
9 recovery in the event of a communications failure.
- 1 2. The media area network according to claim 1 wherein the monitoring means
2 further comprises means for determining whether the storage system successfully completed at
3 least one command.
- 1 3. The media area network according to claim 2 wherein the monitoring means
2 further comprises means for determining whether unsuccessful completion of the at least one
3 command can be corrected by fail-over recovery.
- 1 4. The media area network according to claim 3 wherein the switching means further
2 comprises means for scheduling fail-over recovery upon determination that unsuccessful
3 completion of the at least one command can be corrected by fail-over recovery.
- 1 5. The media area network according to claim 4 wherein the means for scheduling
2 fail-over recovery further comprises:
3 means for queuing requests from an original port that failed to an alternative port;
4 means for canceling all outstanding requests on the original port; and
5 means for issuing at least one command via the alternate port.
- 1 6. A method for achieving fail-over recovery in a media area network having a
2 storage system with at least one storage device for storing digitized information, a host system

- 7 -

3 for providing overall control of the media area network; and a host bus adapter for providing a
4 link between the host system and the storage system, the method comprising the steps of
5 monitoring, at a lower-level port driver in the host bus adapter, communication status
6 between the storage system and the host bus adapter, and in the event of a failure;
7 initiating switching at the lower-level port driver to activate an alternative port, thereby
8 achieving fail-over recovery.

1 7. The method according to claim 6 wherein the step of monitoring the
2 communication status between the storage system and the host bus adapter further comprises the
3 step of determining whether the storage system successfully completed at least one command.

1 8. The method according to claim 7 further comprising the step of determining
2 whether unsuccessful completion of the at least one command can be corrected by fail-over
3 recovery.

1 9. The method according to claim 8 further comprising the step of scheduling fail-
2 over recovery upon a determination that unsuccessful completion of the at least one command
3 can be corrected by fail-over recovery.

1 10. The method according to claim 9 further comprising the steps of:
2 queuing requests from an original port that failed to an alternative port;
3 canceling all outstanding requests on the original port; and
4 issuing at least one command via the alternate port.

1 11. The method according to claim 10 further comprising the step of checking
2 whether cancellation of the outstanding commands occurred, and if not then initiating fail-over
3 recovery of any failed storage system controller.